

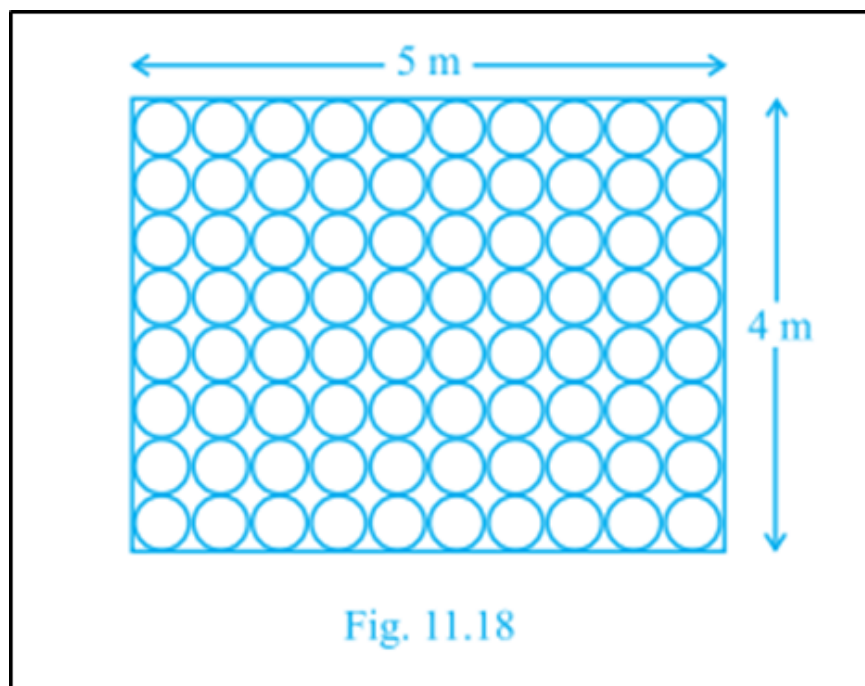
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NCERT Mathematics Class 10 Exemplar Ch 11 Area Related to Circles Part 7

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11. Floor of a room is of dimensions $5\text{ m} \times 4\text{ m}$ and it is covered with circular tiles of diameters 50 cm each as shown in Fig. 11.18. Find the area of floor that remains uncovered with tiles. (Use $\pi = 3.14$)

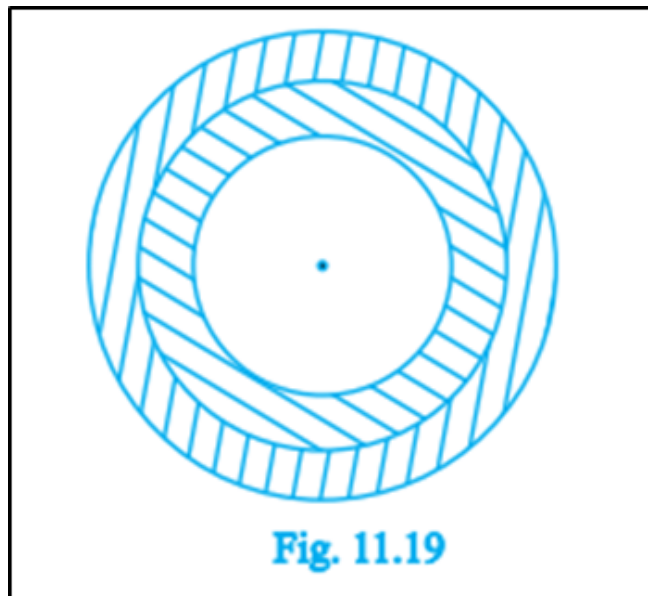


Answer: 4.3 m^2

12. All the vertices of a rhombus lie on a circle. Find the area of the rhombus, if area of the circle is 1256cm^2 . (Use $\pi = 3.14$).

Answer: 800cm^2

13. An archery target has three regions formed by three concentric circles as shown in Fig. 11.19. If the diameters of the concentric circles are in the ratio $1 : 2 : 3$, then find the ratio of the areas of three regions.



Answer: $1 : 3 : 5$

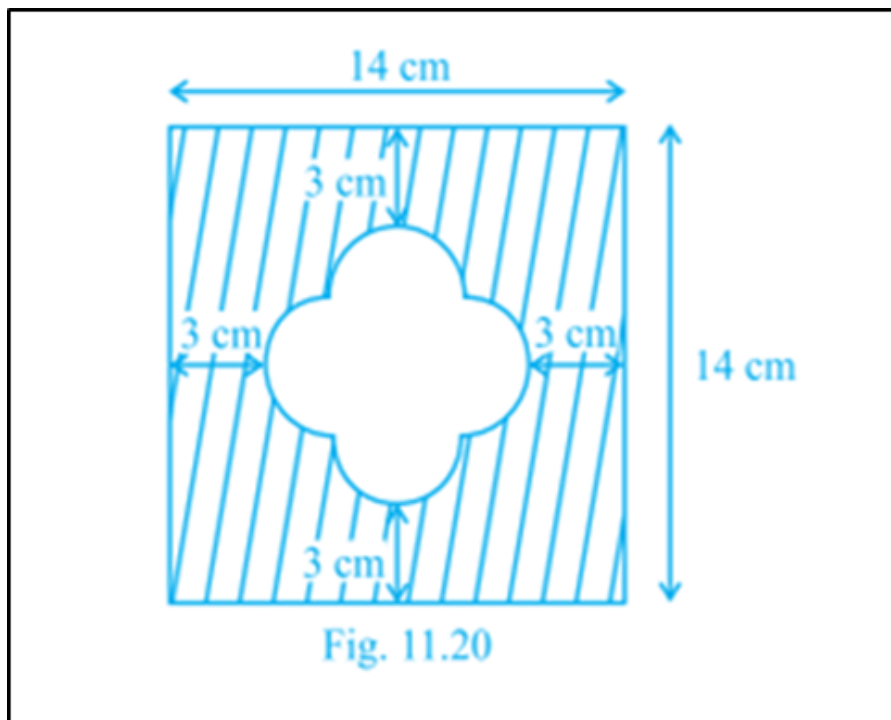
14. The length of the minute hand of a clock is 5 cm. Find the area swept by the minute hand during the time period $6 : 05\text{ a.m.}$ and $6 : 40\text{ a.m.}$.

Answer: $45\frac{5}{6}\text{cm}^2$

15. Area of a sector of central angle 200° of a circle is 770cm^2 . Find the length of the corresponding arc of this sector.

Answer: $73\frac{1}{3}\text{cm}$, Areas: $\frac{154}{3}\text{cm}^2$, 154cm^2 ; Arc lengths: $\frac{44}{3}\text{cm}$; Arc lengths of two sectors of two different circles may be equal, but their area need not be equal.

16. The central angles of two sectors of circles of radii 7 cm and 21 cm are respectively 120° and 40° . Find the areas of the two sectors as well as the lengths of the corresponding arcs. What do you observe?
17. Find the area of the shaded region given in Fig. 11.20.



Answer: $180 - 8\pi\text{ cm}^2$

18. Find the number of revolutions made by a circular wheel of area 1.54 m^2 in rolling a distance of 176 m .

Answer: 40

19. Find the difference of the areas of two segments of a circle formed by a chord of length 5 cm subtending an angle of 90° at the centre.

Answer: $\frac{25\pi}{4} + \frac{25}{2} \text{ cm}^2$

20. Find the difference of the areas of a sector of angle 120° and its corresponding major sector of a circle of radius 21 cm .

Answer: 462 cm^2